PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Form PCT/IPEA/416				
PH-2061-PCT						
International application No.	International filing date (day/month/year)					
PCT/JP2004/003689	18.03.2004	19.03.2003				
International Patent Classification (IPC) or national classification and IPC						
Applicant JAPAN SCIENCE AND TECHNOLOGY AGENCY						
 This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 						
2. This REPORT consists of a total of	4 sheets, inc	luding this cover sheet.				
3. This report is also accompanied by ANNEXES, comprising:						
a. (sent to the applicant and	to the International Bureau) a total of 2	sheets, as follows:				
sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).						
sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.						
b. (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))						
, containing a sequence listing and/or tables						
related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).						
4. This report contains indications relations	ng to the following items:					
Box No. I Basis of the	Box No. I Basis of the report					
Box No. II Priority						
Box No. III Non-establi	Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability					
Box No. IV Lack of unit	Box No. IV Lack of unity of invention					
	Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement					
Box No. VI Certain doc	Box No. VI Certain documents cited					
Box No. VII Certain defe	ects in the international application					
Box No. VIII Certain obs	Box No. VIII Certain observations on the international application					
Date of submission of the demand	Date of completion	of this report				
Name and mailing address of the IPEA/JP	Authorized officer					
Facsimile No.	Telephone No.					

Translation

International application No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY PCT/JP2004/003689 Box No. I Basis of the report With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item. This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of: international search (Rule 12.3 and 23.1(b)) publication of the international application (Rule 12.4) international preliminary examination (Rule 55.2 and/or 55.3) With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the international application as originally filed/furnished the description: as originally filed/furnished received by this Authority on received by this Authority on pages* the claims: as originally filed/furnished as amended (together with any statement) under Article 19 nos.* 3,4,6,8-13 received by this Authority on 21.02.2005 received by this Authority on the drawings: as originally filed/furnished 1/12-12/12 received by this Authority on received by this Authority on a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing. The amendments have resulted in the cancellation of: the description, pages the claims, nos. the drawings, sheets/figs the sequence listing (specify): any table(s) related to sequence listing (specify): This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)). the description, pages the claims, nos. the drawings, sheets/figs the sequence listing (specify): any table(s) related to sequence listing (specify): If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2004/003689

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement				
1,	Statement			
	Novelty (N)	Claims	1-13	YES
		Claims		NO
	Inventive step (IS)	Claims	1-13	YES
		Claims		NO
	Industrial applicability (IA)	Claims	1-13	YES
		Claims		NO
i)				

2. Citations and explanations (Rule 70.7)

- Document 1: JP 9-181355 A (Matsushita Electric Industrial Co., Ltd.), 11 July 1997
- Document 2: Onojima et al., 'Molecular-beam epitaxial growth of insulating AlN on surface-controlled 6H-SiC substrate by HCl gas etching', Applied Physics Letters, 7 January 2002, Vol. 80, No. 1, pages 76 to 78
- Document 3: JP 11-145514 A (Toshiba Corporation), 28 May 1999

The invention set forth in claims 1, 2 and 7 to 13 is novel and involves an inventive step in relation to documents 1 to 3 cited in the international search report.

None of the documents indicates that after irradiating with Si or Ga a SiC surface having had the oxide film removed, high-temperature heat treatment is carried out, after which a Group III nitride is grown.

The invention set forth in claims 3 to 5 is novel and involves an inventive step in relation to documents 1 to 3 cited in the international search report.

None of the documents indicates that nitrogen is fed

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2004/003689

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

to a SiC surface after feeding a monolayer or inferior quantity of a Group III element.

The invention set forth in claim 6 is novel and involves an inventive step in relation to documents 1 to 3.

None of the documents indicates that a surface oxide film is removed using a solution containing hydrofluoric acid in an atmosphere with a diminished oxygen partial pressure.